

04-29-'04 15:45 FROM-Lerner & Greenberg

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T-598 P05/30 U-744

Appl. No. 10/079,114

Amendment Dated April 29, 2004

Reply to Office Action of December 29, 2003

In the Specification:

Replace the paragraph beginning at page 17, line 19, with the following:

--Fig. 1 is a perspective view, partly in cross section, of a first embodiment of the invention;

Fig. 2 2A is a perspective view, partly in cross section, of a second embodiment of the invention;

Fig. 2B is a perspective view, partly in cross section, of a second embodiment of the invention having an edge region with a bonding channel;

Fig. 2C is a perspective view, partly in cross section, of a second embodiment of the invention having a central bonding channel;

Fig. 2D is a perspective view, partly in cross section, of a second embodiment of the invention having a wiring film;

Fig. 3 is a perspective view, partly in cross section, of a third embodiment of the invention;

Fig. 4 is a diagrammatic side view of a wafer applied to a substrate, without or with an applied wiring film, before

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sawing up into individual semiconductor chip regions or  
individual electronic components;

Fig. 5 is a diagrammatic sectional view of a wafer applied to  
a substrate during sawing with a profile saw into individual  
semiconductor chip regions or individual electronic  
components;

Fig. 6 is a diagrammatic sectional view of a wafer applied to  
a substrate and profile-sawn after filling of the sawing  
tracks with a plastics composition; and

Fig. 7 is a diagrammatic sectional view of a wafer applied to  
a substrate, without or with an applied wiring film, which has  
been separated by a separating saw blade into individual  
semiconductor chip regions with an edge of plastic or into  
individual electronic components each with an edge of  
plastic.--

Replace the paragraph beginning at page 22, line 23, with the  
following:

--The adhesive bonding of the plastics composition 8 on the  
profile-sawn contours 6 of semiconductor material may be  
improved by an adhesion-promoting layer 31, which is provided  
between the semiconductor material and the plastics

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composition 8. An adhesion-promoting layer 31 of this type is only necessary if extreme loads act on the electronic component during testing, transportation or further processing. An adhesion-promoting layer 31 of this type may be formed of zinc oxides and/or chromium oxides, which have a dendritic structure. Such a dendritic structure can be achieved by electrodepositing the zinc oxides and/or chromium oxides. The adhesion-promoting layer 31 having a dendritic dendritic structure is schematically illustrated as a dashed line in Fig. 1.--

Replace the paragraph beginning at page 20, line 12, with the following:

--Fig. 2 shows a Figs. 2A-2D show perspective view views, partly in cross section, of a further embodiment embodiments of the invention. Components with the same functions as in Fig. 1 are identified by the same reference numerals, so that there is no need for an additional explanation. The difference between the second embodiment of the invention and the first embodiment is essentially that, instead of a triangular profile which extends in the direction of the active upper side 3 of the semiconductor chip 2, an additional rectangular area 10 is provided for the form-locking engagement of the plastics composition 8 with the profile-sawn contours 6 in the semiconductor material.--

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Replace the paragraph beginning at page 20, line 24, with the following:

--The second embodiment according to Fig. 2 D accordingly provides a stepped transition from the sawn outer edge 5 of the semiconductor material to the active upper side 3 of the semiconductor chip or the wiring film 102, which may be attached on the active upper side 3 of the semiconductor chip 2, in order to form macroscopic external terminal areas. A wiring film 102 of this type is preferably applied to a semiconductor chip 2 if the semiconductor chip 2 has integrated circuits on its active upper side 3. If, however, the semiconductor chip 2 is used with its active upper side 3 as a biosensor or contact sensor 101 as shown in Fig. 2C, the active upper side of the semiconductor chip 2 may directly form the sensor area, without a wiring film covering it. In such cases, however, a bonding channel 103 is often additionally provided at one of the edges, in the edge region of the semiconductor chip 2, in order both to apply the supply voltage to the contact sensor 101 and also to lead the signal voltage away from the contact sensor 101 or biosensor.--

Replace the paragraph beginning at page 21, line 16, with the following:

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--Furthermore, as shown in Fig. 2D, a wiring film 102 may be provided if, as mentioned above, the semiconductor chip 2 carries integrated circuits on its active side 3 and in that case a central bonding channel 103 is left open in the wiring film 102 on the semiconductor chip surface, in order to provide a transition from contact areas 104 of the semiconductor chip 2 provided in a central row 105 and the conductor tracks 106 of the wiring film 102. If bonding channels of this type 103 for an electronic component are provided, a plastics composition (not shown for clarity) is also may be provided in the bonding channels 103, in addition to the plastics composition for the edge of plastic, preferably in a single processing step.--